

in some installations (col 5 line 30). Applicant does not need an internal traveling nut to expand the legs of the implant fixture. Choung does not teach an apparatus without a traveling nut.

Choung, when relying upon the apical cap, expects the sides to be forced outward by the traveling internal nut. Applicant, by not using the traveling nut, is relying on fewer parts and has a more elegant and economical design.

Choung does not rely upon the outward bowing of blades taught by applicant. He does not conceive of this simpler means.

Since Choung is seeking to set an implant directly in an extraction socket with root-like projections and Hobo is consistent in his reference to "a cylindrical body receivable within a bore provided in a jawbone of a patient" (his Claim 1), no doubt, drilled surgically, neither is directed toward the same solution.

Thus it would not be obvious to one skilled in the art at the time of the invention to have formed a truncated cone without the inner traveling nut to be placed in a tapered bore in the jawbone.

Applicant has anticipated this need in his invention.

A clean copy of the Claims:

Claims 1, 2, 4, 8 and 12 through 16 are withdrawn.

3. A dental implant apparatus with expandable sides for locking into a predrilled hole in bone having an upper conformal socket, a hollow expansion tube with a wall having alternating ribs and open spaces, and a lower retaining nut;
said hollow expansion tube compressible along a major axis by tightening a retaining compression screw through said conformal socket, said expansion tube and said retaining nut;
and said ribs expanding outward upon the tightening of said retaining compression screw comprising said outwardly expanding ribs with a thinned portion on said ribs bowing outward to a greater distance than the thicker portion of said ribs to prevent rotation of said dental implant apparatus during installation and use, said thinned portions on said ribs alternating edges on alternate said ribs.

5. A dental implant apparatus [as described in claim 1,] with expandable sides for locking into a predrilled hole in bone having an upper conformal socket, a hollow expansion tube with a wall having alternate ribs and open spaces, and a lower retaining nut;
said hollow expansion tube compressible along a major axis by tightening a retaining compression screw through said conformal socket, said expansion tube and said retaining nut;

and said ribs expanding outward upon the tightening of said retaining compression screw comprising outwardly expanding ribs with a notched edge on said ribs bowing outward to a greater distance than the un-notched edge of said ribs to prevent rotation of said dental implant apparatus during installation and use, said notched edges on said ribs alternating edges of alternate said ribs.

6. A dental implant apparatus with expandable sides for locking into a predrilled hole in bone having an upper conformal socket, a hollow expansion tube with a wall having alternate ribs and open spaces, and a lower retaining nut;

said hollow expansion tube compressible along a major axis by tightening a retaining compression screw through said conformal socket, said expansion tube and said retaining nut;

and said ribs expanding outward upon the tightening of said retaining compression screw comprising outwardly expanding ribs with narrowed portions on said ribs bowing to a smaller radius than the un-narrowed portions of said ribs to prevent rotation of said dental implant apparatus during installation and use.

7. A dental implant apparatus with expandable sides for locking into a predrilled hole in bone having an upper conformal socket, a hollow expansion tube with a wall having alternate ribs and open spaces, and a lower retaining nut;

said hollow expansion tube compressible along a major axis by tightening a retaining compression screw through said conformal socket, said expansion tube and said retaining nut;

and said ribs expanding outward upon the tightening of said retaining compression screw

comprising outwardly expanding ribs with narrowed portions on said ribs bowing to a smaller radius than the un-narrowed portions of said ribs to prevent rotation of said dental implant apparatus during installation and use, said narrowed portions on said ribs alternating edges of alternate said ribs.

9. A dental implant apparatus with expandable sides for locking into a predrilled hole in bone having an upper conformal socket, a hollow expansion tube with a wall having alternate ribs and open spaces, and a lower retaining nut;

said hollow expansion tube compressible along a major axis by tightening a retaining compression screw through said conformal socket, said expansion tube and said retaining nut;

and said ribs expanding outward upon the tightening of said retaining compression screw comprising outwardly expanding ribs, said ribs having edges that spiral about the central axis of said hollow expansion tube.

10. A dental implant apparatus with expandable sides for locking into a predrilled hole in bone having an upper conformal socket, a hollow expansion tube with a wall having alternate ribs and open spaces, and a lower retaining nut;

said hollow expansion tube compressible along a major axis by tightening a retaining compression screw through said conformal socket, said expansion tube and said retaining nut;

and said ribs expanding outward upon the tightening of said retaining compression screw comprising a hollow expansion tube having a truncated conical shape to better mimic the normal root shape of a tooth.

11. A dental implant apparatus with expandable sides for locking into a predrilled hole in bone having an upper conformal socket, a hollow expansion tube with a wall having alternate ribs and open spaces, and a lower retaining nut;
said hollow expansion tube compressible along a major axis by tightening a retaining compression screw through said conformal socket, said expansion tube and said retaining nut;
and said ribs expanding outward upon the tightening of said retaining compression screw comprising outwardly expanding ribs with spaces through portions on said ribs forming spines extending to a greater diameter than the un-spaced portions of said ribs to prevent rotation of said dental implant apparatus during installation.

Respectfully submitted.


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